What is claimed is:

1. An multi-frequency band antenna comprising:

a first radiating element being shaped as an extended bent wire for functioning as an antenna element of a first frequency band, said first radiating element comprising a conductive material;

a second radiating element for functioning as an antenna element of a second frequency band, said second frequency band being different from said first frequency band, said second radiating element comprising a conductive material; and

a feed radiating element having a first end being used as a signal feed point for signals of said first and second frequency bands, and a second end being electrically connecting said first radiating element to said second radiating element and forming a top loaded structure.

2. The multi-frequency band antenna as claimed in claim 1, said feed radiating element being a metal conductor.

3. The multi-frequency band antenna as claimed in claim 1, said feed radiating element being formed by a metal conductor and a base of a dielectric material.

4. The multi-frequency band antenna as claimed in claim 3, said metal conductor being placed on a top surface of said base.

5. The multi-frequency band antenna as claimed in claim 3, said metal conductor being placed on an interior layer of said base.

6. The multi-frequency band antenna as claimed in claim 1, said first and second

radiating elements being formed by two metal conductors and a base of a dielectric material.

7. The multi-frequency band antenna as claimed in claim 6, said metal conductors being placed on a top surface of said base.

8. The multi-frequency band antenna as claimed in claim 6, said metal conductors being placed in an interior area of said base.

9. The multi-frequency band antenna as claimed in claim 6, said base having at least two interior layers and said metal conductors being placed in different interior layers.

10. The multi-frequency band antenna as claimed in claim 1, said first and said second radiating elements being coplanar and forming an angle with said feed radiating element.

11. The multi-frequency band antenna as claimed in claim 10, said angle being in a range between 70° to 180°.

12. The multi-frequency band antenna as claimed in claim 1, said first and said second radiating elements being placed on a curved surface.

13. The multi-frequency band antenna as claimed in claim 1, said first radiating element having an extended square-wave pattern.

14. The multi-frequency band antenna as claimed in claim 1, said first radiating element having an extended saw-tooth pattern.

15. The multi-frequency band antenna as claimed in claim 1, said first radiating element having an extended sinusoid pattern.

16. The multi-frequency band antenna as claimed in claim 1, said first radiating element having a pattern which is a combination of at least two patterns selected from the group of extended square-wave pattern, extended saw-tooth pattern and extended sinusoid pattern.

17. The multi-frequency band antenna as claimed in claim 1, said second radiating element being a straight conductor.

18. The multi-frequency band antenna as claimed in claim 1, said second radiating element being an extended bent conductor.